Concern for the World's Oceans and Coasts

Coastal development, with the attendant destruction of the habitats of marine organisms, and microbial contamination of beaches, are major causes of immediate concern about the marine environment. Twenty leading marine scientists reached this conclusion after wide examination of the open seas and coastal waters.

They identified four other causes for worry: eutrophication (over-enrichment of coastal waters by nutrients such as phosphates and nitrates which result in excessive plant growth and the death of fish), the progressive build-up of chlorinated hydrocarbons especially in the tropics and sub-tropics, the pollution of the sea by plastic litter, and the accumulation of tar on beaches.

These views and a wealth of other interesting materials are to be found in a recently-published 104-pages' report entitled 'The State of the Marine Environment'. It bears the imprint of eight UN organizations led by the United Nations Environment Programme (UNEP). But unlike so many international reports and scientific treatises, it steers clear of jargon and reads well.

First Such Report for Eight Years

'This is the first serious scientific overview of the health of the world's oceans [to appear] in eight years', declared Professor Alasdair McIntyre of the University of Aberdeen in Scotland, chairman of the study-group. 'The first survey was done in 1982 by GESAMP, the Group of Experts on the Scientific Aspects of Marine Pollution. Ours is the second GESAMP examination of the state of health of the marine environment. There will be more. Like human beings, the oceans require regular check-ups.'

One of the new report's statements is of great general interest: 'We no longer accept the earlier view that there was no demonstrable causal link between human disease and bathing in contaminated sea-water. Recent epidemiological studies in the United States and in the Mediterranean have cast a new light on the causal relationship between swimming in sea-water contaminated with pathogens of faecal origin and disease among bathers. The relationship is particularly strong in the case of children under five,' says Professor McIntyre.

The presence in the marine environment of such heavy-metals as lead, mercury, and cadmium, 'is now of less concern — except, of course, where high levels occur near contamination sources. They should continue to be monitored, however,' he went on, 'to ensure compliance with current acceptable levels.'

Radioactivity and Oil

The marine scientists often find themselves in conflict with popular belief. Take, for example, radioactivity. The GESAMP scientists concede that 'radioactive contamination generates widespread public fears.' But they go on to assert that 'although artificial radionuclides from a number of sources, including nuclear installations, fallout from weapons-testing and, more recently, from the accident at Chernobyl, have added to the levels naturally occurring in sea-water, these additions have had insignificant effects on man and other organisms.'

While the scientists do not pooh-pooh oil pollution, they see it as much less dangerous to the marine environment than most people do: 'Oil is a highly visible contaminant. Notwithstanding the impact of large accidental spills, its main global impact is due to tar-balls which, although generally harmless to marine organisms, may foul beaches and interfere with recreational activities — sometimes with major economic consequences in tourist areas. The presence of petroleum hydrocarbons in sea-water, and particularly in sediments, however, continues to be a matter of concern locally after accidents have released large amounts of oil that accumulate in sheltered areas, affecting amenities (*i.e.* beach facilities) and living resources, especially bird life. While the damage is not irreversible, recovery can be slow.'

Professor McIntyre said that radionuclides, oil, and heavy-metals (lead, mercury, cadmium), 'were highlighted in the 1982 GESAMP study, but we now regard them as being of lesser concern. There is an understandable tendency to focus on contaminants that are clearly detectable in the sea, but we are more concerned that very low concentrations of toxic substances may produce effects at the sub-lethal level that could build up over long periods with significant damage to ecosystems. We should encourage special studies of the problem.'

Widespread Coastal Concern

The 1990 GESAMP report starts by saying that 'Man's fingerprint is found everywhere in the oceans. Chemical contamination and litter can be observed from the poles to the tropics, and from the beaches to abyssal depths. But conditions in the marine environment vary widely. The open sea is still relatively clean. In contrast to the open ocean, the margins of the sea are affected by Man almost everywhere, and encroachment on coastal areas continues world-wide.'

'Habitats are being lost irretrievably to the construction of harbours and industrial installations, to the development of tourist facilities and mariculture (salt-water fish and shellfish farming), and to the growth of settlements and cities. Although difficult to quantify, destruction of beaches, coral reefs, and wetlands — including mangrove forests — as well as increasing erosion of the shore, are evident all over the world. If unchecked, this trend will lead to global deterioration in the quality and productivity of the marine environment.

'The growing exploitation of the coast is a reflection of population increase, accelerating urbanization, greater affluence, and faster transport — trends that will probably continue throughout the world. Controlling coastal development and protecting habitats will require changes in planning both inland and on the coast — often involving painful social and political choices.'

The GESAMP scientists offer 'a very rough estimate' of the relative contribution of all potential pollutants from various human activities entering the sea:

Source	*All Potential pollutants* (percentage contribution)
Offshore production	1
Marine transportation	12
Dumping	10
Runoff and land-based discharges	44
Atmosphere	33

The study concludes by declaring that 'pollution *per se* is not the only threat to the ocean. Runaway coastal development is as damaging to habitats and marine resources... No international agreements or guidelines on

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coastal development are available, and this gap should be remedied well before most areas are built up, mangroves cut down, swamps and lagoons ''reclaimed'', and coral reefs destroyed.'

Summing up, Professor McIntyre said: 'Too little attention is being paid to the consequences of coastal development and land-based activities for the oceans. Especially if you consider the continuing population growth, there is good reason to fear a significant deterioration in the marine environment in the next decade... unless strong, coordinated national and international action is taken now. There must be concerted measures to conserve raw materials and to reduce wastes. This will call for great efforts and involve high costs, but nothing less will ensure the continued health of the oceans.'

In addition to UNEP, other GESAMP-sponsoring organizations are the UN Food and Agriculture Organization, the International Atomic Energy Agency, the International Maritime Organization, UNESCO, the United Nations, the World Health Organization, and the World Meteorological Organization.

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BTCV and the Natural Break

In *Environmental Conservation* Vol. **15**, No. 4, p. 372, Winter 1988, Anita Prosser described the initiative that is being taken by the British Trust for Conservation Volunteers (BTCV) to inculcate the idea of local, unpaid involvement in conservation work in as many countries as are prepared to take steps to set up similar organizations. BTCV is also recruiting volunteers to work with local groups in countries of the European Community (EC), the aim being to introduce the 'volunteering ethic' where this is not, as yet, a strong feature of public life.

In the United Kingdom the Trust, which was founded 30 years ago as the *Conservation Corps*, with fewer than 50 members, has expanded and developed into an organization for which over 60,000 volunteers worked on a wide variety of projects during the course of the last twelve months. Activities range from a single Sunday's pine-pulling*, or a weekend spent clearing refuse from the tidal mud-flats of the River Thames, to fully residential working holidays—*'The Natural Break'*. In addition, BTCV runs programmes for schools (often giving children in the inner cities their first introduction to the natural world) and 750 training courses for group leaders and others interested in woodland and country skills.

The Trust publishes a number of handbooks on these crafts, as well as books for schools, a Tree and Shrub catalogue, and its quarterly newsletter, *'The Conserver'* (all on recycled paper). Following, although not entirely as a consequence of, the great storm of October 1987, in which more than 14,000,000 trees†, mainly in the south and south-east of England, were estimated as having been destroyed in a single night, BTCV launched a campaign to plant 1,000,000 trees. By October 1989, when the campaign had run for twelve months, 385,543 trees had been planted by 25,000 volunteers.

BTCV possesses no land, but does own a number of volunteer and training centres; these are very often disused farm buildings which have been repaired and converted by volunteers. Eight hundred and seventy-five schools and 580 local groups are affiliated with BTCV, and the Trust now has its own Appeal Department. BTCV is employed by local authorities, National Parks, the National Trust, Water Authorities, many other statutory and volunteer bodies, and farmers and private landowners — all of whom pay the Trust for the work that is carried out in their interest. Sponsorship comes from industry, central Government, the Countryside Commission, charitable trusts, etc.

Anita Prosser, the BTCV International Development Officer, can be contacted at the Trust's Headquarters: 36 St Mary's Street, Wallingford, Oxfordshire, OX10 0EU. She would be pleased to provide further information and to give every assistance to anyone aspiring to set up a similar organization outside the UK, which it is hoped in time more and more will do.

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*Apparently this means 'pulling up young pines that are thought to be alien or intrusive in a particular area'.—Ed.

†Wondering about the size of this figure, we asked the Author, who replied (in litt.) 'this figure was erring on the side of caution' as the figure usually given is 15,000,000, but 'Just to make sure I rang the Nature Conservancy Council and they said ''Forestry Commission's accepted figure is 15,000,000''.'—Ed.

Towards a Greener Europe

The British Trust for Conservation Volunteers (BTVC) is widening its action to involve more and more other Europeans in the direct care and management of their local environments, as exemplified in the account published over a year ago in *Environmental Conservation* (Vol. **15**, No. 4, p. 372 with fig., Winter 1988). For thirty years, BTCV has been helping to conserve the UK environment with the support, duly organized, of tens of thousands of volunteers.* During the past year alone more than 50,000 people helped to save some of the country's most valued wildlife habitats and traditional landscapes, and now conservation organizations throughout Europe will be able to draw on this expertise through a unique new network.

The International Conservation Action Network (ICAN) is funded by the European Commission and aims to help European conservation organizations to involve local people by providing information about working with volunteers; setting up practical projects; working with local communities; advising on habitat management techniques; and organizing training courses and seminars.

The first example of ICAN was launched in Lille, France, in November 1989 with the creation of *Vert Bizness* — an exciting new scheme to involve French students from technical colleges in setting up 'green' business ventures. BTCV's contribution to *Vert Bizness* will be principally through the provision of practical sup-

*Let us express the hope that their attractive emblem (of a palmate green leaf dominating the acronym) will become well-known and be proudly worn by all concerned as a gentle reminder that much can be done to safeguard our own and Nature's environment. — Ed.